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	Nota di contenuto	Bio-Inspired Computing and Communication -- Biological Networks -- A Complex Network Approach to the Determination of Functional Groups in the Neural System of C. Elegans -- Modelling Gene Regulatory Networks -- The Role of Simplifying Models in Neuroscience: Modelling Structure and Function -- An Artificial Chemistry for Networking -- Biomimicry: Further Insights from Ant Colonies? -- Network-Related Challenges and Insights from Neuroscience -- Network Epidemics -- Networks in Epidemiology -- Epidemiology and Wireless Communication: Tight Analogy or Loose Metaphor? -- Epidemic Spreading of Computer Worms in Fixed Wireless

Networks -- Wireless Epidemic Spread in Dynamic Human Networks -- Complex Networks -- Stochastic Spreading Processes on a Network Model Based on Regular Graphs -- Weighted and Directed Network on Traveling Patterns -- Communication Networks in Insect Societies -- The Topological Fortress of Termites -- Evolutionary and Temporal Dynamics of Transcriptional Regulatory Networks -- Phase Patterns of Coupled Oscillators with Application to Wireless Communication -- Self-organizing Desynchronization and TDMA on Wireless Sensor Networks -- Bio-Inspired Network Model -- Bio-Inspired Multi-agent Collaboration for Urban Monitoring Applications -- Bio-Inspired Approaches for Autonomic Pervasive Computing Systems -- Biologically Inspired Self Selective Routing with Preferred Path Selection -- Biologically Inspired Approaches to Networks: The Bio-Networking Architecture and the Molecular Communication -- Network Protocol in Wireless Communication -- User-Centric Mobility Models for Opportunistic Networking -- Wavelet-Domain Statistics of Packet Switching Networks Near Traffic Congestion -- A Circulatory System Approach for Wireless Sensor Networks -- Epcast: Controlled Dissemination in Human-Based Wireless Networks Using Epidemic Spreading Models -- Maintaining Spatial-Temporal Knowledge through Human Interaction -- Data Management -- Beta Random Projection -- Biologically Inspired Classifier -- Distributed Computing -- Human Heuristics for Autonomous Agents -- Designing Biological Computers: Systemic Computation and Sensor Networks -- A Rule System for Network-Centric Operation in Massively Distributed Systems -- Field-Based Coordination for Pervasive Computing Applications -- Coalition Games and Resource Allocation in Ad-Hoc Networks -- Security -- Bio-Inspired Topology Maintenance Protocols for Secure Wireless Sensor Networks -- Dynamic Topologies for Robust Scale-Free Networks.

| Sommario/riassunto | The book constitutes the thoroughly refereed post-workshop proceedings of the First Workshop on Bio-Inspired Design of Networks, BIOWIRE 2007, held in Cambridge, UK, in April 2007. The 35 revised full papers presented were carefully reviewed and selected from many high quality submissions. All recent developments in the field of bio-inspired design of networks are addressed, with particular regard to wireless networks and the self-organizing properties of biological networks. The papers are organized in topical sections on biological networks, network epidemics, complex networks, bio-inspired network mode, network protocol in wireless communication, data management, distributed computing, and security. |